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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,591	10/31/2003	Douglas C. Allan	SP03-146	2625
7590 Kevin M. Able Corning Incorporated Intellectual Property Dept. SP-TI-3 Corning, NY 14831			EXAMINER CABRERA, ZOILA E	
			ART UNIT 2125	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/699,591

Applicant(s)

ALLAN ET AL.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 5 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-22 is/are allowed.
- 6) ☒ Claim(s) 1-2, 5, 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-2, 5, 7-22 are presented for consideration.

Claims 3-4, and 6 have been cancelled.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-7 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by **Sugawara et al. (US. 5,837,026)** in view of **Murata (US 2002/0151426 A1)**.

1. (Currently Amended) A method of determining parameters of a plurality of thermal cycles to achieve a set glass strain level, the method comprising:

providing a plurality of input parameters for a glass substrate, the plurality of input parameters comprising parameters from the manufacturing thermal history of the glass material (Col. 1, line 26 to Col. 2, line 30) and parameters for a subsequent thermal processing sequence (Col. 1, lines 62+) and a plurality of parameters for a plurality of thermal cycles(Figs. 1-2; Col. 1, line 27 and Col. 2, line 30); and providing a computer which is adapted to iteratively modify at least one of the plurality of thermal

cycle parameters so the glass strain is not greater than the set glass strain level after a final thermal cycle is completed (Col. 4, lines 1-9; Col. 5, lines 50-62).

2. (Original) A method as recited in claim 1, wherein the iterative modifying includes providing a penalty function, which provides constraints on allowed temperature variations, heating and cooling rates, hold times, and durations of the plurality of thermal cycles (Figs. 1-2; Col. 4, lines 27-65).

5. (Original) A method as recited in claim 4, wherein the input parameters include a single choice of time and temperature for the manufacturing thermal history and the subsequent thermal processing (Figs. 1-4).

6. (Original) A method as recited in claim 4, wherein the subsequent thermal processing includes forming at least one semiconductor layer over the glass material (Col. 2, lines 30-50).

7. (Original) A method as recited in claim 1, wherein the set glass strain level is a compaction level (Col. 2, lines 5-30).

13. (Original) A method as recited in claim 1, wherein the parameters are pairs of time and temperature (Figs. 1-4).

**Sugawara** discloses the limitations of claim 1 above but fails to specifically disclose forming at least one polycrystalline semiconductor layer over the glass material. However, **Murata** discloses forming polycrystalline semiconductor layer over a glass material ([0011]). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of

**Sugawara** with the teachings of **Murata** because it would provide an improvement in performance, such as a higher definition and a higher-speed response (Murata, [0011]).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. (US. 5,837,026), Murata (US 2002/0151426 A1) and further in view of Admitted Prior Art (Specification, [0080]).

**Sugawara and Murata** disclose the limitations of claims 1 and 7 above but fails to specifically disclose the limitations of claims 8-10. However, Applicant admits that such limitations are known:

As for claim 8-10,

8. (Original) A method as recited in claim 7, wherein the compaction is has a magnitude not exceeding approximately 10 ppm ([0080]).

9. (Original) A method as recited in claim 7, wherein the compaction is in the range of approximately 0 ppm and -10 ppm ([0080]).

10. (Original) A method as recited in claim 1, wherein an absolute value of the glass strain is less than approximately 10 ppm ([0080]).

Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **Sugawara and Murata** with the already known compaction ranges and absolute values because it would provide an optimum glass strain value (Specification, [0080]).

5. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sugawara et al. (US. 5,837,026) and Murata (US 2002/0151426 A1)**.

As for claims 11-12, **Sugawara and Murata** discloses the limitations of claim 1 above and further discloses that all of the plurality of parameters is iteratively modified (Col. 6, lines 45-65). However, **Sugawara and Murata** fail to disclose that the plurality of parameters is in the range of approximately 10.sup.3 to approximately 10.sup.6.

However, absent any evidence of criticality or unexpected results, such magnitudes and ranges are believed to represent an obvious matter of design choice to one of ordinary skill in the art. Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to have used such ranges during the experimentation of compaction process of glasses.

***Allowable Subject Matter***

6. Claims 14-22 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The allowability of the claims resides, at least in part, that the closest prior art of record **DeBoynton et al. (US 6,304,383)** does not disclose or suggest, alone or in combination, the steps of:

As for independent claim 14, **e) calculating a value of viscosity at a current temperature and a current fictive temperature; f) calculating a change in the fictive temperature for a given change in time; g) updating a set of data including the current temperature, the current time and storing these data; h) determining if the current time from step g) is set final time, and if not repeating steps e) through h) , and if so, termination the method**, in combination with the other elements and features of the claimed invention.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

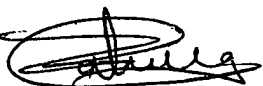
Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (571) 272-3738. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

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If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. Additionally, the fax phones for Art Unit 2125 are (571) 273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Zoila Cabrera  
Primary Examiner  
1/7/08

  
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